THYRISTOR-BASED MEMROY AND ITS METHOD OF OPERATION

Abstract:

A thyristor-based memory may comprise a thyristor accessible via an access transistor. A temperature dependent bias may be applied to at least one of a supporting substrate and an electrode capacitively-coupled to a base region of the thyristor. The voltage level of the adaptive bias may change with respect to temperature and may influence and/or compensate an inherent bipolar gain of the thyristor in accordance with the change in bias and may enhance its performance and/or reliability over a range of operating temperature. In a particular embodiment, the thyristor may be formed in a layer of silicon of an SOI substrate and the adaptive bias coupled to a supporting substrate of the SOI structure.